

Chapter 4

Research Results

The results and findings of this study will be presented and discussed in this chapter. First, the respondents' characteristics in different geographic area will be identified. Based on the data collected from the survey, the research results will unveil which mass media better create awareness towards Internet banking. Secondly, a comparative study was carried-out to see whether there is difference in knowledge on Internet banking between consumers in Kuala Lumpur and Ipoh. The findings for perception will also be presented. Lastly, reasons for not using Internet banking will be discussed to see the common excuses gave by the non Internet banking users.

4.0 Characteristics of the respondents

As the compositions of the Malaysian population stretches across a very diverse demographic segments, it will be interesting to devote a section of this study to identify the demographic of the survey.

There are 150 respondents in this survey in which 100 respondents from Kuala Lumpur and 50 from Ipoh. Table 4.0 contain the complete information on the respondents profile, included gender, age, ethnic group, educational level, monthly household income, marital status and computer ownership.

The result showed that more than half of the collected respondents from Kuala Lumpur and Ipoh are female, 63% and 60% respectively. In term of age, the number of respondents that below 30 years old is larger than those 30 years old & above, with the ratio of 77:23 and 84:16 in Kuala Lumpur and Ipoh respectively.

In term of ethnic, Chinese is the highest compared to others ethnic. There are 53.4% of the respondents are Chinese, 34% are Malays, and the rest are Indians and other ethnic.

Table 4.0: Characteristics of the respondents

		Kuala Lumpur			Ipoh		
No.	Demographic Characteristic	No	%	% of total respondents	No	%	% of total respondents
1.	Gender:						
	Male	37	37.0	24.7	20	40.0	13.3
	Female	63	63.0	42.0	30	60.0	20.0
2	Age:						
	Below 25	39	39.0	26.0	23	46.0	15.3
	25-29	38	38.0	25.3	19	38.0	12.7
	30-39	20	20.0	13.3	5	10.0	3.3
	40- 49	3	3.0	2.0	3	6.0	2.0
3.	Race:						
	Malay	33	33	22.0	18	36	12.0
	Chinese	55	55	36.7	25	50	16.7
	Indian	10	10	7.0	7	14.0	4.7
	Others	2	2	1.3	0	0.0	0.0
4.	Marital Status:						
	Single	66	66.0	44.0	34	68.0	22.7
	Married without children	17	17.0	11.3	13	26.0	8.7
	Married with children	17	17.0	11.3	3	6.0	2.0
5.	Education:						
	High school	23	23.0	15.3	27	54.0	18.0
	Diploma	26	26.0	17.3	6	12.0	4.0
	Degree	48	48.0	32.0	17	34.0	11.3
	Master degree	3	3.0	2.0	0	0.0	0.0
6.	Job level:						
	Top management	0	0.0	0.0	0	0.0	0.0
	Middle management	10	10.0	6.7	3	6.0	2.0
	Lower management	52	52.0	34.7	18	36.0	12.0
	Non managerial	38	38.0	35.7	29	58.0	19.3

7.	Industry attached:						
	Finance/ Banking/ Insurance	10	10.0	6.7	3	6.0	2.0
	Education/ Training	4	4.0	2.7	4	8.0	2.7
	Retail/ Distribution	51	51.0	34.0	25	50.0	16.7
	Manufacturing	8	8.0	5.3	14	28.0	9.3
	Professional service/ Consulting	21	21.0	14.0	4	8.0	2.7
	IT/ Computer	6	6.0	4.0	0	0.0	0.0
8.	Personal Income:						
	RM 1,000 & below	14.0	14.0	9.3	22	44.0	14.7
	RM 1,001- 2,000	57.0	57.0	38.0	12	24.0	8.0
	RM 2,001- 3,000	12.0	12.0	8.0	10	20.0	6.7
	RM 3,001- 4,000	12.0	12.0	8.0	3	6.0	2.0
	RM 4,001- 5,000	2.0	2.0	1.3	3	6.0	2.0
	Above 5,000	3.0	3.0	2.0	0	0.0	0.0
9.	Computer ownership:						
	at Home	63	63	42.0	25	50	16.7
	at Office	88	88	58.7	50	100	33.3
10.	Internet connection:						
	at Home	53	53.0	35.3	19	38.0	12.7
	at Office	33	33.0	22.0	11	22.0	7.3
11.	Hand phone ownership	72	72.0	48.0	37	74.0	24.7
12.	WAP facility	29	21.3	19.3	11	22	7.3
13.	Years using Internet:						
	Never used before	19	19.0	12.7	14	28.0	9.3
	Less than1 year	29	29.0	19.3	18	36.0	12.0
	1-3 years	34	34.0	22.7	15	30.0	10.0
	3 years & above	18	18.0	12.0	3	6.0	2.0

The results also showed that 51% of the collected respondents in Kuala Lumpur are degree holders, but only 34% of the respondents in Ipoh are degree holders. In addition, 62% of the collected respondents in Kuala Lumpur are in managerial position and 86% have incomes over RM 1,000. However, only 42% of the collected respondents in Ipoh in managerial position and 56% have income over RM 1,000.

Besides that, almost all the collected respondents in Kuala Lumpur and Ipoh have a personal computer in the office. However, only about 60% of them

have a computer at home. There are about 75% of the respondents own a hand-phone nevertheless, about 26% of the hand-phone owner has WAP facility. Hence, the bankers should consider to offer Internet banking through hand-phone in few years time.

Overall, the demographic characteristics for collected respondents in Kuala Lumpur and Ipoh are quite similar except in terms of educational level, job level and personal income.

4.1 Analysis of Sources of Information

A list of 6 items are listed in the research instrument on knowing the existence of Internet banking and sources of information in Section 2. 81% of the respondents in Kuala Lumpur indicated that they heard about Internet banking. Of these respondents, 67% know that banking institutions in Malaysia offered Internet banking. However, only 32% of the respondents in Ipoh heard about Internet banking and 24% know that banking institutions in Malaysia offered Internet banking (Table 4.1).

4.1 Aware and Sources of Information on Internet banking

		Kuala Lumpur			Ipoh		
No.		No	%	% of total respondents	No	%	% of total respondents
1.	Know what is Internet banking:						
	Has never heard of	20	20.0	13.3	34	68.0	22.7
	Has heard, doesn't know what it is	49	49.0	32.7	10	20.0	6.7
	Know what it , hasn't used	27	27.0	18.0	4	8.0	2.7
	Has used it	4	4.0	2.7	2	4.0	1.3
2.	Know that banking institutions in Malaysia offered Internet banking:						
	Has never heard of	33	33.0	22.0	38	76	25.3
	Has heard, doesn't know which bank offered	30	30.0	20.0	6	12	4.0

2	Know which of the bank offered, hasn't used Has used the Internet banking	33	33.0	22.0	6	12	4.0
		4	4.0	2.7	0	0	0
3.	Months know that Internet banking offered:	33	33.0	22.0	38	66.0	22.0
	Do not know	18	18.0	12.0	6	16.0	4.0
	Less than 1 month	33	33.0	22.0	3	6.0	2.0
	2-3 months	14	14.0	9.3	0	0.0	0.0
	4-6 months	12	12.0	8.0	3	12.0	2.0
	more than 6 months						
4.	Banks offer Internet banking:						
	Malayan banking Berhad	40	40.0	26.7	9	18.0	6.0
	Southern Bank Berhad	37	37.0	24.7	3	6.0	2.0
	Phileo Allied Bank	21	21.0	14.0	15	15.0	30.0
5.	Internet banking advertisement:						
	Very often	0	0.0	0.0	0	0.0	0.0
	Often	0	0.0	0.0	0	0.0	0.0
	Occasionally	36	36.0	24.0	6	12.0	4.0
	Rarely	9	9.0	6.0	0	0.0	0.0
	Never	55	55.0	36.7	44	88.0	29.3
6.	Source of Information:						
	Mass media						
	Magazine	33	33.0	22.0	3	6.0	2.0
	Newspaper	49	49.0	32.7	12	24.0	8.0
	Television	6	6.0	40.0	4	8.0	5.3
	Radio	3	3.0	2.0	0	0.0	0.0
	Informal						
	Neighbours & friends	53	53.0	35.3	21	42.0	28.0
	Relatives	2	2.0	1.3	3	6.0	4.0
	Commercial						
	Bank's circular/ pamphlet	10	10.0	6.7	3	6.0	2.0
	Bank personnel	9	9.0	6.0	0	0.0	0.0
	Self						
	Surf through the web site	6	6.0	4.0	1	2.0	0.7
	Enquire from the bank	3	3.0	2.0	3	6.0	4.0
	Do not know	33	33.0	22.0	38	76.0	50.7

Data in Table 4.1 also indicated the relative rank of various sources of information which made respondents aware of the Internet banking. Surprisingly,

informal sources from neighbours & friends were mentioned most frequently, by 53% and 42% from collected respondents in Kuala Lumpur and Ipoh respectively. This is followed by mass media sources- newspapers were mentioned most frequently, 49% and 24% from collected respondents in Kuala Lumpur and Ipoh respectively. There are only 4.7% of the total respondents aware of Internet banking through the Internet. This showed that Internet is still not an popular source to disseminate information in Malaysia.

Besides that, there are more respondents knew that Malayan Banking Berhad (MBB), 32.7% offered Internet banking compared to Southern Bank Berhad (SBB), 26.7% because SBB offered this new channel a few months later than MBB. Meanwhile, 34% of the respondents confused between Internet banking and Intranet banking as they indicated Phileo Allied offered Internet banking.

Another method of categorizing sources of information is in terms of whether the contact is personal or impersonal. Table 4.2 in page 44 indicates relative importance of the personal and impersonal sources of information.

From Table 4.2 it can be seen that impersonal sources were mentioned most frequently, by 72% in Kuala Lumpur. Contrary, personal sources were mentioned more frequent, by 18% in Ipoh compared to impersonal sources, 16%. This indicated that impersonal sources particularly informal sources is an important source to create awareness for new innovation product

Table 4.2: Informational Sources Categorized as Personal and Impersonal

	Kuala Lumpur		Ipoh	
	No	% of total respondents	No	% of total respondents
Impersonal				
Mass Media	91	61.0	19	13.0
Bank's circular	10	7.0	3	2.0
Surf through the web site	6	4.0	1	1.0
Total	107	72.0	23	16.0
Personal				
Informal	55	37.0	24	16.0
Bank personnel	9	6.0	0	0
Enquire from the bank	3	2.0	3	2.0
Total	67	45.0	27	18.0

4.2 Analysis of Knowledge on Internet banking

A list of 26 items on knowledge about Internet banking are listed in the research instrument in Section 3. The results are presented in Table 4.3 in page 45.

From Table 4.3, it can be seen that the knowledge of collected respondents on Internet banking is not high (each item less than 50% respondents knew the answer) especially knowledge on security in which only about 5.3% respondents knew about it.

The chi-square method was used to compare the demographic characteristics (Table 4.1) against the knowledge on Internet banking. The purpose of conducting chi-square is to relate the 2 variables to see the significance. For example, to see if the job level differ in knowledge on Internet banking, we applied the chi-square distribution to test whether the 2 variables are independent.

The results showed that different job level, income level and education of the respondents in the sample related to the knowledge on Internet banking as the p-values are smaller than alpha value of 0.05 (Appendix V).

Table 4.3: Knowledge on Internet banking

		Kuala Lumpur			Ipoh		
No.		No	%	% of total respondents	No	%	% of total respondents
1.	General information I could do banking transaction through Internet banking anytime.	51	51.0	34.0	13	26.0	17.3
2.	Banking transaction through Internet banking has time constraint.	53	53.0	35.3	13	26.0	17.3
3.	I could access Internet banking through a computer.	73	73.0	48.7	35	70.0	23.3
4.	I could not access Internet banking through a computer.	73	73.0	48.7	35	70.0	23.3
5.	Internet banking has more than one site i.e. information site, communication site and transaction site.	40	40.0	26.7	14	28.0	9.3
6.	Internet banking has only one site i.e. transaction site.	42	42.0	28.0	16	32.0	10.7
7.	Information site I know what security methods adopted by the bank on the Internet banking.	8	8.0	5.3	0	0.0	0.0
8.	To protect network security from hackers, Secure Socket Layer bit encryption is not recommended.	9	9.0	6.0	1	2.0	0.7

9.	Information site I could obtain information on base lending rate through Internet banking.	44	44.0	29.3	17	34.0	11.3
10.	Internet banking does not has information on saving rate.	49	49.0	32.7	17	34.0	11.3
11.	Internet banking does not has information on base lending rate..	50	50.0	33.3	18	36.0	12.0
12.	I could not obtain on bank balances through Internet banking.	45	45.0	30.0	24	48.0	16.0
13.	Internet banking has information on range of products and services offered by the bank.	44	44.0	29.3	23	46.0	15.3
14.	Internet banking has no information on range of products and services offered by the bank.	45	45.0	30.0	24	48.0	16.0
15.	I could obtain information on saving rate through Internet banking.	45	45.0	30.0	24	48.0	16.0
16.	Internet banking does not has information on base lending rate.	44	29.3	30.0	23	46.0	15.3
17.	Transaction site I could pay bills through Internet banking.	36	36.0	24.0	22	44.0	14.7
18.	I need to go to Post Office to pay utilities bills because Internet banking does not offer this facility.	37	37.0	24.7	17	34.0	11.3
19.	I could not transfer funds through the Internet banking.	34	34.0	21.3	17	34.0	11.3
20.	I could transfer funds through the Internet banking.	34	34.0	22.7	17	34.0	11.3

21.	I could not do other non-banking services such as Electronic shopping through Internet banking..	29	29.0	19.3	14	28.0	9.3
22.	I could do other non banking services such as Electronic Shopping through Internet banking.	29	29.0	19.3	14	28.0	9.3
23.	Communication site I could open a saving account through the Internet banking.	32	32.0	21.3	17	34.0	11.3
24.	I could not open saving account through the Internet banking.	32	32.0	21.3	17	34.0	11.3
25.	I could e-mail to the bank for enquiries.	31	31.0	20.7	6	12.0	4.0
26.	I could not e-mail to the bank for enquiries.	33	33.0	20.7	6	12.0	4.7

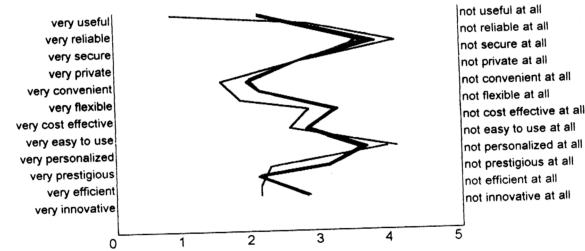
4.3 Analysis on Perception towards Internet banking

The primary interest in this section is to study the perception of banks' customers on the Internet banking. The question was followed by twelve concepts on a five point semantic differential scale for the respondents to choose. The lower the score the better the respondents perceived the Internet banking service. SPSS has been used to analyse the data by calculating the mean values for every concept as presented in Table 4.4. A diagram was also drawn to get a clearer picture.

Table 4.4: Perception on Internet banking

Perception	Kuala Lumpur	Ipoh
Useful	1.93	2.32
Reliable	2.97	2.76
Secure	4.10	3.80
Private	2.73	2.74
Convenience	1.50	2.00
Flexible	1.80	2.24
Cost Effective	2.83	3.28
Easy to use	2.66	2.88
Personalized	4.00	3.52
Prestigious	2.38	3.24
Efficient	2.29	2.08
Innovate	2.15	2.74

Table 4.5: Diagram of Perception on Internet banking



The mean values for secure and personalised is the highest (Table 4.4). This meant that most the respondents felt that Internet banking is insecure and impersonal. The Internet banking is not personalized because the software have been programmed to follow the certain procedure and sequence only. The result is consistent with Teoh (1998) comparative study between electronic banking and conventional banking who also found out that conventional banking is more personalized than electronic banking.

On the other hand, the mean value for convenience and flexible is the lowest. This showed that most of the respondents agreed that banking transactions through Internet banking are convenient (place) and flexible (time).

Overall, the respondents in Kuala Lumpur and Ipoh have positive perception on Internet banking. The average mean value for the 12 items on perception towards Internet banking are 2.61 and 2.80 for Kuala Lumpur and Ipoh respectively.

4.4 Hypotheses Testing

Seven hypotheses were generated in this research as stated in Chapter 3. The following is the findings:

Hypothesis 1

H₀: There is no relationship between education level and knowledge on Internet banking.

H₁: The higher education level, the knowledge on Internet banking will be better.

The Person correlation results showed correlation coefficient of 0.45, significant at the $p = 0.01$ level (Table 4.6). Thus, the null hypothesis was rejected and the alternate hypothesis accepted. This hypothesis was substantiated. The result is

consistent with the assertion by Engel & Blackwell (1982) that education and knowledge are positive correlated.

Table 4.6: Pearson Correlation between education and knowledge on Internet banking

		knowledge
Education	Pearson Correlation	-.450**
	Sig. (2 tailed)	.000
	N	150

**. Correlation is significant at the 0.01 level (2-tailed)

Hypothesis 2

- Ho : There is no relationship between occupational level and knowledge on Internet banking.
- H1 : The higher occupational level, the knowledge on Internet banking will be better.

A significant correlation of 0.550 was found at the $p=0.01$ level (Table 4.7). Thus the null hypothesis was rejected and the alternate hypothesis accepted. The result is consistent with the assertion by Schiffman & Kanuk (1991) that occupational level (social class) and knowledge are positive correlated.

Table 4.7: Pearson Correlation between occupation level and knowledge on Internet banking

		Knowledge
Occupational	Pearson Correlation	.550**
	Sig. (2 tailed)	.000
	N	150

**. Correlation is significant at the 0.01 level (2-tailed)

Hypothesis 3

- H₀ : There is no relationship between knowledge and perception on Internet banking.
- H₁ : There will be a positive correlation between knowledge and perception on Internet banking.

A significant correlation of 0.534 was found at the $p = 0.01$ level (Table 4.8). Thus the null hypothesis was rejected and the alternate hypotheses accepted. The result is consistent with the assertion by Schiffman & Kanuk (1991) that knowledge and perception are correlated.

Table 4.8: Pearson Correlation between knowledge and perception on Internet banking

		Knowledge
Perception	Person Correction	.534**
	Sig. (2 tailed)	.000
	N	150

** . Correlation is significant at the 0.01 level (2-tailed)

Hypotheses 4

- H₀ : There is no relationship between knowledge and adoption of Internet banking.
- H₁ : The will be a positive correlation between knowledge and adoption of Internet banking.

The Pearson correlation results showed a correlation coefficient of 0.475, significant at the $p = 0.01$ level (Table 4.9).. Thus, the null hypothesis was rejected and the alternate hypothesis accepted. The result is consistent with the assertion by Schiffman & Kanuk (1991) that knowledge and adoption are correlated.

Table 4.9: Pearson Correlation between knowledge and adoption on Internet banking

		Knowledge
Adoption	Pearson Correlation	.475**
	Sig. (2 tailed)	.000
	N	150

** . Correction is significant at the 0.01 level (2-tailed)

Hypotheses 5

H₀ : The perception of individuals on Internet banking will be the same irrespective of their job level.

H₁ : The perception of individuals will vary depending on their job level.

The results of ANOVA shown in Table 4.10 showed that there are significant differences in the mean perception among the three different job levels (F = 3.778; p = .000) at the 0.05 level of statistical significance. Thus, null hypothesis was rejected and the alternate hypothesis is accepted. The result is consistent with Lee (1999) that the consumers' perception on electronic banking is vary depending on their job level.

Table 4.10: Results of Anova with Perception as dependent variable

		Sum of Square	df	Mean Square	F	Sig.
Occupation	Between Groups	22.568	20	1.128	3.778	.000
	Within Groups	38.526	129	.299		
	Total	61.093	149			

Hypotheses 6

H₀ : The perception of individuals on Internet banking will be the same irrespective of their education level.

H₁ : The perception of individuals will vary depending on their education level.

The results of ANOVA depicted in Table 4.11 showed that there are significant differences in the mean perception among the three different education levels ($F = 9.206$; $p = .000$) at the 0.05 level of statistical significance. Thus, null hypothesis was rejected and the alternate hypothesis is accepted. The result is consistent with Lee (1999) that the consumers' perception on electronic banking is vary depending on their education level.

Table 4.11: Results of Anova with Perception as dependent variable

		Sum of Square	df	Mean Square	F	Sig.
Education	Between Groups	68.823	20	3.441	9.206	.000
	Within Groups	48.217	129	.374		
	Total	117.040	149			

Hypothesis 7

H₀ : There will be no difference between individuals in Kuala Lumpur and Ipoh with respect to the items- useful, secure, convenient, flexible, cost effective and personalized in the perception on Internet banking.

H₁ : There will be significant difference between individuals in Kuala Lumpur and Ipoh with respect to the items- useful, secure, convenient, flexible, cost effective and personalized in the perception on Internet banking.

The results of the t-test are shown in Table 4.12. Since the two groups are independent, we will be looking for the significance of the t value under the equal variance not assumed. The results showed that there is significant difference between individuals in Kuala Lumpur and Ipoh with respect to the items- useful

($t=0.004$), secure ($t=0.000$), convenient ($t=0.000$), flexible ($t=0.000$), cost effective ($t=0.002$) and personalized ($t=0.000$) in the perception on Internet banking at the 0.05 level of statistical significance. Thus, the null hypothesis was rejected and the alternate hypothesis accepted. This hypothesis was substantiated.

Table 4.12: Results of t-test with respects to the items- useful, secure, convenient, flexible, cost effective and personalized in the perception on Internet banking

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
Useful	Equal variances assumed	-2.776	148	.006	-.39
	Equal variances not assumed	-2.950	115.447	.004	-.39
Secure	Equal variances assumed	4.296	148	.000	.70
	Equal variances not assumed	4.877	135.272	.000	.70
Convenient	Equal variances assumed	-5.123	148	.000	-.50
	Equal variances not assumed	-5.445	115.485	.000	-.50
Flexible	Equal variances assumed	-4.089	148	.000	-.44
	Equal variances not assumed	-3.706	76.657	.000	-.44
Cost not effective	Equal variances assumed	-3.096	148	.002	-.45
	Equal variances not assumed	-3.201	107.237	.002	-.45
Personal	Equal variances assumed	4.199	148	.000	.48
	Equal variances not assumed	4.242	100.847	.000	.48

4.5 Adoption of current non-user on Internet banking

This section is to find out how many of the non user Internet banking will be adopting this new delivery channel in future. It is also to find out the reasons for not adopting it.

Table 4.13 as below showed that 17.4% of the respondents are unlikely adopt the Internet banking and 31.2% of the respondents are not sure whether to adopt the Internet banking. Among the reasons are as follows:

- a. Lack of security.
- b. Difficult to use the service.
- c. Not personalized
- d. Do not know how to use it.
- e. Do not need it.

Meanwhile, there are 51% of the non-user respondents will be adopting the services because it is convenient and for update themselves to the change.

Table 4.13: Adoption of current non-user on Internet banking

	Kuala Lumpur			Ipoh		
Adoption	No	%	% of total respondents	No	%	% of total respondents
Highly likely	9	9.4	6.3	14	29.2	9.7
Likely	38	39.6	26.4	13	27.1	9.0
No sure	32	33.3	22.2	13	27.1	9.0
Unlikely	14	14.6	9.7	6	16.7	5.6
Highly unlikely	3	3.1	2.1	0	0	0

4.6 Summary of the findings

The results showed that impersonal sources is the priority to create awareness on Internet banking in Kuala Lumpur. However, personal sources from friends is the priority to create awareness on Internet banking in Ipoh. The results also showed that the level of knowledge on Internet banking is low for both location. Besides that, there is a positive relationship between knowledge and perception on Internet banking and between knowledge and adoption of the service.